

had again been directed to the peculiarities of the organs of vision in the male sex. He had already shown that these individuals possess only ocelli at the sides of the head as well as on the vertex, but that these structures exist at precisely the same parts of the head as the ocelli and the compound eyes in the female, and consequently that there can be no doubt of their homology. These appearances, however, having led some to question the correctness of this, it became necessary, in order to judge aright of their nature, to consider what are the essential conditions of a structure which is specially destined *for the appreciation of light*. This consists, as already pointed out in *Fishes*, of a follicle or pit in the tegument of the head, coated with dark pigment, and receiving the distal termination of a particular cerebral nerve, conditions which are precisely those of the ocelli, both of the sides of the head and of the vertex, in *Anthophorabia*. The various modifications of the eye in insects, with regard to the form of the cornea, the depth of the chamber, and the presence of the choroid, and of the lens, with reference to the extent of field, and the focal distance, of vision, were pointed out, and the degree in which they exist in *Anthophorabia* mentioned, as coinciding with the peculiar habits of the insect. The structures in the male were thus shown, by the presence of cornea, chamber, choroid, and nerve, to be most indisputably organs of sight. The author referred ~~to~~ to the binary origin of the nerve of the middle ocellus of the vertex, as formerly pointed out by him in his paper on *Pteronarcys*; to the origin of ocelli in the same way as other dermal tubercles; and to the imperfect eye-spots in the *Scorpionidæ* being supplied with nervous filaments from the same optic nerve which supplies the recognised organs of vision in those animals.

May 3, 1853.—R. Brown, Esq., President, in the Chair.

Read a memoir "On the Vegetation of Buenos Ayres and the neighbouring districts." By Charles James Fox Bunbury, Esq., F.R.S., F.L.S., &c.

ZOOLOGICAL SOCIETY.

May 13, 1851.—John Edward Gray, Esq., F.R.S., in the Chair.

The following papers were read:—

1. OBSERVATIONS ON THE EYE OF THE MOLE, IN A LETTER
ADDRESSED TO W. SPENCE, Esq., F.R.S.
By JOHN DAVY, M.D., F.R.S.

In a letter with which you favoured me some weeks ago, you made mention of Schiödte's 'Faunæ Subterraneæ Specimen,' and of the interesting discoveries described in it of several species of eyeless animals, the inhabitants of caves into which the sun's rays never penetrate, and where, in utter darkness, visual organs would consequently be useless.

Reflecting on the subject, I thought it worth while to examine with some care the eyes of the common Mole, an animal that spends the greater portion of its time beneath the surface of the earth, and seems in its general organization specially adapted for a subterraneous life.

I shall chiefly notice what, in the dissections I have made, appears to be peculiar.

The first peculiarity that arrests attention is, that the eyes of the Mole are not contained in bony sockets, but lie unprotected by any bony prominences in the cellular tissue, beneath the common integuments; and, in consequence, were this animal an extinct one, and its skeleton found in a fossil state, there being no orbit, the palæontologist might be led to infer that it is a species destitute of eyes.

The next peculiarity I would mention is in regard to eye-lashes. These too it seems to be destitute of. The hair in which the eyes are buried, and by which they are defended, seems to be the common fur of the head. I could detect in that immediately surrounding them no hairs of larger dimensions, or in any respect different from those of which its fine fur is composed.

The apertures for the admission of light constitute another peculiarity. When the fur is removed from the skin surrounding the eyes, a minute aperture appears over each, about $\frac{1}{25}$ th of an inch in length when closed, and, in this state, linear and straight, but circular when fully expanded. The extreme margins of these openings in the integuments being covered with fur, there is no well-marked appearance of eyelids,—indeed, it may be a question, whether the Mole, in strictness, can be said to possess these appendages. From the observations I have made, I am disposed however to infer that it does possess them, but imperfect;—imperfect, not having been able to detect beneath the marginal cutis any vestige of ciliary cartilages, and yet having found in the surrounding subcutaneous cellular tissue muscular fibres so arranged as if designed for closure, resembling an orbicular muscle, and probably designed for and performing the part of such a muscle.

As to the other muscles of the eye, one only, an abductor, was distinguishable from adjoining muscles. It is of large size comparatively, and it may be inferred powerful: by acting on it, seizing it with a forceps, and drawing it upwards, the ball of the eye was retracted, thus denoting its office. I sought in vain for other muscles. That they were not discovered, supposing them to exist, is not surprising, considering the smallness of the organ and its peculiar un-insulated position, most unfavourable for discriminating the subordinate parts pertaining to it, such as the muscles.

Relative to the constituent parts of the organs themselves, excepting their delicacy and minuteness, I am not aware of any peculiarity. The eye-ball is about $\frac{1}{25}$ th of an inch in diameter; the iris dark brown; the pupil circular; the lens about $\frac{1}{163}$ rd of an inch in diameter. Traces of a vitreous humour, and also of an aqueous, were observable; the former in the appearance of a cellular texture, as seen under the microscope with a high power; the latter as an exudation of moisture, a just perceptible quantity of fluid, when the ball was

ruptured. From the situation of the eyes low down in the face, the optic nerves are necessarily of unusual length.

The dissections, of which I have thus briefly given the results, I need hardly remark were made chiefly under water, and with the aid of the microscope.

To return to the subject which led to the inquiry, viz. the subterranean eyeless Fauna brought to light by the Danish naturalist, you in your letter briefly advert to the speculations which this curious discovery gives rise to, as, "whether these animals originally had eyes, and have lost them from want of use by inhabiting for ages dark caves; or, whether they were originally created without eyes, for those abodes where they have no occasion for them," &c. Allow me to ask—fully appreciating the difficulty of solving such problems—whether the preceding observations on the eyes of the Mole are not rather in favour of the latter than of the former solution? It is easy to imagine how the optic nerve and the more important parts of the organ of vision might diminish in size from little use; but it is difficult to suppose that the same circumstance could have any material effect in obliterating a cavity in bone—the eye's orbit—and, if the Mole's eyes were thus originally designed, why may not the eyeless animals have been formed in the first instance without eyes? Do not we see throughout Nature the most perfect harmony between the organic structure and the modes of life and habits of the living beings, so that the one is the true index of the other,—and that in the most minute details? Excuse my touching on these speculative questions, which, probably, from their nature, always must be speculative,—unless indeed the eyeless species are found otherwise identical with species possessing eyes, and there be found also a gradation in them, as to power and size in accordance with the degrees of light to which the individuals have been habituated, as in advancing from the open air and the entrance of the dark abodes to their deepest recesses. Also, excuse me if the matter of this letter should not be new to you.

Lesketh How, Ambleside, April 28, 1851.

P.S.—It may be deserving of mention, that notwithstanding the small size of the eye of the Mole, its appearance in foetal development is early: thus, in a foetus which I have recently examined, the length of which was about three-quarters of an inch, the eyes were distinct; they were visible—conspicuous in the naked face, even without the aid of a magnifying glass, and indeed were not much smaller than those of the adult, and but little different in appearance: the diameter of each was about $\frac{1}{160}$ th of an inch.

2. NOTICE OF TWO VIVERRIDÆ FROM CEYLON, LATELY LIVING IN THE GARDENS. BY J. E. GRAY, ESQ., F.R.S. ETC.

The specimens here noticed were brought from Ceylon by Alex. Grace, Esq., and lived some time in the Gardens of the Society.

The first is the species which I described some years ago under the name of *Herpestes Smithii* (Mag. Nat. Hist. 1837, ii.), from a specimen which was living in the Surrey Zoological Gardens, now pre-

served in the Collection of the British Museum: that specimen was said to have been sent from the Cape of Good Hope, but this must have been a mistake, as it is quite unknown to Dr. Burchell, Dr. A. Smith, Mr. Smut, Dr. Wahlberg, or other zoologists who have written on the animals of South Africa.

Mr. Grace informs me that it is an inhabitant of the interior part of Ceylon. It is by far the most beautiful species of the genus.

The second is a new species of *CYNICTIS*, which I propose to call *CYNICTIS MACCARTHLÆ*.

Teeth normal. Red brown; hair elongate, flaccid, pale brown, with a broad, black subterminal band, and a long whitish brown tip; of hands and feet shorter. Feet blackish brown, hair white tipped. Claws elongate, slender, compressed, especially of the two middle toes of the fore feet. Tail redder; hair elongate, one-coloured, red. Ears rounded, hairy.

Hab. Ceylon; Jaffna, North of Ceylon (*A. Grace, Esq.*).

This species somewhat resembles *Cynictis melanura* in general colour, but the hairs are much longer, not so adpressed, and, when the individual colour of the hair is examined, most distinct.

I have proposed to name this interesting animal after Mrs. MacCarthy, the wife of the Treasurer of the Colony and the daughter of Mr. Hawes, the Assistant Secretary to the Colonies, who is much interested in the study of natural history, and has kindly sent me several very interesting natural productions from Ceylon.

The skull differs from all the other *Herpestes* that I have examined, in the back of the nape being deeply and sharply notched instead of transversely truncated, the notch in the living animal being filled up with a cartilaginous septum.

3. DESCRIPTIONS OF FIFTY-TWO NEW SPECIES OF THE GENUS MITRA, FROM THE CUMINGIAN COLLECTION. BY ARTHUR ADAMS, F.L.S. ETC.

1. *MITRA SEROTINA*, A. Adams. *M. testâ oblongo-fusiformi, acuminatâ, serotinâ; spirâ productâ, longitudinaliter plicatâ, plicis confertis, undulatis; transversim sulcatâ, sulcis subdistantibus; aperturâ anticè dilatâ; columellâ quadriplicatâ, basi coarctâ et recurvâ; labro intus lirato, margine recto, anticè subangulato.*

Hab. Marquesas.

A light orange species, with a produced spire, and the outer lip produced and rather angulated anteriorly.

2. *MITRA CRATITIA*, A. Adams. *M. testâ oblongo-fusiformi, albidd, nitidd, liris elevatis transversis, acutis, et lineis elevatis, longitudinalibus, decussatim ornatâ; interstitiis subtilissimè longitudinaliter striatis; aperturâ intus aurantiacâ; columellâ plicis quinque instructâ.*

Hab. South Africa.

The shell from which the description is taken is worn, and not in

good condition, but it appears to be distinct from any species already described.

3. MITRA STRAMINEA, A. Adams. *M. testâ oblongo-fusiformi, stramineâ; anfractibus planulatis, liris transversis rugulosis, interstitiis cancellatis, suturâ subcanaliculatâ; aperturâ oblongâ, anticè subproductâ; columellâ plicis quatuor, basi subrecurvatâ; labro intus lævi.*

Hab. —?

An oblong, transversely-ridged species, rather faintly cancellated between the interstices.

4. MITRA INSIGNIS, A. Adams. *M. testâ ovato-acuminatâ; spirâ acutâ, lævi, nitidâ, albidâ; anfractibus planis, fasciâ angustâ albo fuscoque articulatâ, ornatâ; anfractu ultimo anticè transversim striatâ; columellâ sinuatâ, biplicatâ, anticè incurvatâ.*

Hab. Rains Island (Mr. Ince).

This is a very peculiar form, reminding one almost of the genus *Pusionella* of Gray.

5. MITRA LÆVIS, A. Adams. *M. testâ oblongo-fusiformi, apice acuto, lævi, nitidâ, albidâ; anfractibus planis, supremis cancellatis, ultimo fasciâ latâ transversâ, rufescenti ornato; columellâ plicis quatuor, supremis magnis imbricatis.*

Hab. Zanzibar.

A smooth *Oliva*-shaped species, with a polished surface, and a red-brown band blending into the white of the last whorl; the plates of the columella are imbricate.

6. MITRA TIGRINA, A. Adams. *M. testâ oblongo-ovatâ; spirâ crassiusculâ, apice mucronato, rufo, albo strigosâ; anfractibus planiusculis, transversim subsulcatis; columellâ plicis quinque; labro intus rufo.*

Hab. Philippines.

Several specimens of this species, all agreeing in form, were collected by Mr. Cuming; but one only retained the natural colour of the surface.

7. MITRA TIARELLA, A. Adams. *M. testâ oblongo-ovatâ, fuscâ, nodulis albis, ad suturas coronatâ, longitudinaliter subplicatâ, transversim liratâ, interstitiis valdè punctatis; columellâ plicis quatuor; labro margine crenulatâ.*

Hab. Island of Ticao, sandy mud, 6 fathoms.

This small, brown-coloured species is beautifully crowned, in adult specimens, with a diadem of white nodules at the suture of the whorls.

8. MITRA PIGRA, A. Adams. *M. testâ oblongo-fusiformi, obscuro-fuscâ, lineis pallidulis transversis prope suturas, albidâ, maculis rufis, ornatâ; lævi; spirâ acuminatâ; anfractibus septem, planulatis; aperturâ subdilatatâ, intus albâ; columellâ plicis quatuor, albis, obliquis, instructâ, anticè subintortâ.*

Hab. Australia.

This species partakes somewhat of the character of *M. sacerdotalis*.

9. MITRA LUCTUOSA, A. Adams. *M. testâ oblongo-fusiformi, obscuro-fusca, fasciâ unicâ pallidâ transversâ ornatâ; spirâ acutâ, anfractibus planulatis, transversim liratâ; interstitiis valdè clathrato-punctatis; aperturâ oblongo-ovatâ; spirâ breviori; labio crassiusculo; columellâ plicis quatuor salientibus.*

Hab. China Seas.

This species was obtained during the voyage of H.M.S. Samarang.

10. MITRA INSCULPTA, A. Adams. *M. testâ ovato-fusiformi; spirâ brevi, acutâ; aperturâ breviori; anfractibus planulatis, pallidè fusca, maculis rufis, longitudinalibus, variegatâ; cingillis integris, acutis, prominentibus, æquidistantibus; liris intermediis submoniliformibus; interstitiis longitudinaliter valdè sulcatis; aperturâ elongatâ; columellâ plicis tribus; labro acuto margine crenulato.*

Hab. Ceylon (Dr. Gardner).

This species also belongs to the same group as *M. cingulata*.

11. MITRA EXARATA, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturam æquante; anfractibus subrotundis; suturâ subcanaliculatâ, olivaceâ, fasciis duabus pallidis transversis, longitudinaliter costatâ; costellis æqualibus, subdistantibus; interstitiis lineis insculptis, profundis, transversis; columellâ plicis tribus, validis, instructâ.*

Hab. Bais, island of Negros, coarse sand, 7 fathoms.

The most characteristic feature of this species is the sculpture between the ribs, consisting of deep, engraved, transverse lines.

12. MITRA RUFOCINCTA, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturam æquante; anfractibus rotundis, sordidè alba, fasciâ transversâ latâ rufo-fusca; longitudinaliter costatâ, costis obtusis, rotundis, distantibus; interstitiis lineis impressis transversis; aperturâ subdilatatâ; columellâ plicis quatuor instructâ; labro tenui anticè dilatato.*

Hab. —?

A small, slightly-worn specimen serves for this description, but it is of peculiar form and sculpture.

13. MITRA NITIDA, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ breviori; anfractibus subrotundis, lævi, nitidâ, badiâ, anfractu ultimo anticè et posticè sulcis nonnullis transversis instructo; aperturâ oblongâ, anticè subdilatatâ; columellâ plicis quatuor; labro simplici.*

Hab. —?

A small, brown, shining species, with only a few transverse spiral lines for sculpture.

14. MITRA COMPTA, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ longiore; anfractibus subrotundis, supernè angulatis,*

sordidè albâ, longitudinaliter plicatâ; transversim liratâ, liris apud plicas nodulosis; interstitiis valdè et regulariter clathratis; anfractu ultimo anticè angustato et reflexo; columellâ plicis quinque instructâ; labro internè sulcato, margine crenulato.

Hab. China Seas.

This species, remarkable for the strong cancellations between the longitudinal plicæ, was brought home in H.M.S. Samarang.

15. MITRA LIGATA, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ longiore, anfractibus planis; castaneo-fuscâ, lined unicâ pallidâ, transversâ in medio anfractuum, longitudinaliter plicatâ, transversim subliratâ; columellâ plicis quatuor; labro simplici, margine acuto.*

Hab. Pasacao, province of South Camarinas; isle of Luzon, on the sands.

The colouring of this species is very different from the allied species, and the sculpture is peculiar to many species belonging to the subgenus *Turris* of Schumacher.

16. MITRA VIBEX, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ æquante; anfractibus rotundis; fuscâ, prope suturas pallidâ, zonulâ albâ angustâ transversâ in medio anfractuum; longitudinaliter corrugato-plicatâ, transversim liratâ, liris apud plicas nodulosis; interstitiis longitudinaliter striatis; anfractu ultimo angustato et anticè subreflexo; columellâ plicis quatuor instructâ; labro acuto.*

Hab. —?

This species somewhat resembles *armillata* of Reeve, but the corrugated nature of the plicæ distinguishes it.

17. MITRA INTERRUPTA, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ; aperturâ breviori; anfractibus planis, prope suturas angulatis; albâ, rufo-fusco variegatâ; cingulâ transversâ fuscâ moniliformi in medio anfractuum; longitudinaliter plicatâ, plicis æqualibus, obliquis, obtusis, distantibus; transversim corrugato-liratâ; interstitiis punctatis; anfractu ultimo anticè recurvato; columellâ supernè excavatâ, plicis tribus instructâ; labro simplici.*

Hab. North Australia.

The peculiar interrupted, dark, transverse band distinguishes this elegant species.

18. MITRA EXIMIA, A. Adams. *M. testâ ovatâ; spirâ brevi, obtusâ; nitidâ, aurantiacâ, maculis triangularibus albis, cingillis lævibus, latis, transversis; interstitiis valdè longitudinaliter clathratis; aperturâ lineari-oblongâ; columellâ plicis quatuor; labro intus lævi, margine crenulato.*

Hab. —?

This pretty little species belongs to the same group as *M. læta*, but the sculpture and markings are quite different, although the colour is nearly similar.

19. MITRA MULTILIRATA, A. Adams. *M. fusiformis, spirâ acuminatâ, aperturam æquante; anfractibus rotundatis, ad suturas angulatis; pallidè rufo-fusca, cingillis lævibus transversis, æquidistantibus, obtusis, ornatâ; interstitiis lineis longitudinalibus, elevatis, subconfertis, instructis; anfractu ultimo anticè producto et subreflexo; columellâ anticè truncatâ, plicis quatuor instructâ; labro intus sulcato, margine crenulato.*

Hab. China Seas.

This species was obtained during the voyage of H.M.S. Samarang.

20. MITRA LÆTA, A. Adams. *M. testâ ovatâ, crassiusculâ, aurantiacâ, punctis albis ornatâ; longitudinaliter plicatâ; anfractibus planiusculis, transversim nodoso-liratâ; interstitiis simplicibus; columellâ plicis quinque instructâ; labro crenulato.*

Hab. Ticao, under stones, low water.

An oblong-ovate, shining, orange species, with scattered round white granules and regular nodulose liræ; the spire is obtuse; the whorls are flattened and longitudinally plicate.

21. MITRA ORNATA, A. Adams. *M. testâ oblongo-fusiformi, acuminatâ; spirâ acutâ; anfractibus novem, ad suturas angulatis; suturâ subcanaliculatâ; albâ, fasciis transversis rufo-fuscis ornatâ; longitudinaliter costatâ; costis regularibus, obliquis, subcrenatis; interstitiis transversim valdè clathratis; anfractu ultimo anticè subumbilicato et recurvo; columellâ plicis quatuor; labro posticè subangulato.*

Hab. — ?

This species is peculiar for its regular form and exactness of sculpture, as well as for its beauty of colouring.

22. MITRA NODILIRATA, A. Adams. *M. testâ oblongo-fusiformi, pallidè fulvâ, fasciâ latâ rufâ transversâ ornatâ; spirâ acuminatâ, turritâ; anfractibus octo planis, infra suturas angulatis; nitidâ, longitudinaliter plicatâ; plicis distantibus, prominentibus, obliquis, prope suturas valdè nodulosus; interstitiis lineis impressis transversis ornatis; columellâ plicis quatuor; labro acuto.*

Hab. — ?

An elegant form, with the pliciform ribs strongly nodulose at their hind part.

23. MITRA PURA, A. Adams. *M. testâ fusiformi; spirâ aperturâ longiori; anfractibus subplanulatis; albâ; cingulis transversis angustis, subelevatis, crenulatis, rufo subarticulatis; liris tribus intermediis; interstitiis valdè punctatis, ornatâ; aperturâ oblongâ, anticè dilatatâ; columellâ plicis quinque; labro intus sulcato, margine crenato.*

Hab. — ?

An elegantly formed species, with the last whorl somewhat recurved.

24. MITRA CINGULATA, A. Adams. *M. testâ ovato-fusiformi; spirâ acutâ, aperturam æquante; anfractibus planulatis; sordidè albâ; cingillis prominentibus subcrenulatis, acutis, transversis;*

interstitiis longitudinaliter valdè clathratis, ornatà; anfractu ultimo anticè producto et recurvato; columellà plicis tribus.

Hab. —?

This species belongs to that group in which the whorls are encircled with transverse ridges.

25. *MITRA RETICULATA*, A. Adams. *M. testà ovato-fusiformi; spirà aperturà breviori; anfractibus subrotundis; albà; cingulis transversis, æquidistantibus, acutis, crenulatis, sulcis obliquis longitudinalibus decussatis, ornatà; columellà plicis quatuor; labro intus sulcato.*

Hab. Port Essington, 7 fathoms, sandy mud (Jukes).

Remarkable for the acute, crenated, transverse ridges which give the surface a reticulated appearance.

26. *MITRA ASPERULATA*, A. Adams. *M. testà oblongo-fusiformi, pallidè rufo-fusca, ad suturas albidà, longitudinaliter sulcatà, transversim liratà, liris nodulis, subacutis, asperulatis; spirà productà; anfractibus sex, subrotundis; aperturà spiræ dimidium æquante, anticè abruptè truncatà; columellà plicis tribus; labro acuto.*

Hab. Australia.

The transverse ridges are set with subacute nodules, which give a rough appearance to the surface.

27. *MITRA MIRABILIS*, A. Adams. *M. testà fusiformi; spirà acuminatà, aperturà longiori; anfractibus novem, planulatis, superne angulatis; albà, maculis rufis triangularibus, et punctis transverso-elongatis, rufescentibus, ornatà; longitudinaliter plicatà, plicis obtusis, regularibus, distantibus, nodosis; nodis posticè prominentibus; cingulis transversis nodulosis, obtusis, elevatis, instructà; anfractu ultimo in medio angustato; anticè productà et subreflexà; aperturà elongatà; columellà plicis quatuor; labro posticè angulato, in medio inflexo, intus sulcato, margine crenulato.*

Hab. Socotra.

28. *MITRA ALBINA*, A. Adams. *M. testà oblongo-fusiformi, albà; spirà conicà, longitudinaliter plicatà; anfractibus subrotundatis, liris transversis ornatis; anfractu ultimo lævi, posticè subplicato, anticè sulcis transversis punctatis ornato; columellà plicis quinque; aperturà oblongo-lineari; labio subcalloso; labro acuto.*

Hab. Batangas, Isle of Luzon, on the reefs.

This *Mitra* is perfectly white, and of a very peculiar form; Mr. Cuming possesses but a single specimen.

29. *MITRA AMÆNA*, A. Adams. *M. testà oblongo-fusiformi, albà, maculis rufis variegatà; spirà acuminatà; anfractibus octo, subrotundis, carinulis transversis, lævibus, elevatis, rufo-fusco articulatis, lirà intermedià crenulatà, interstitiis eleganter longitudinaliter clathratis; aperturà angustà; columellà plicis quinque; labro tenui, acuto.*

Hab. Red Sea.

This elegant species belongs to the annulated group.

30. MITRA RUTILA, A. Adams. *M. testá oblongo-fusiformi, acuminatá, aurantiacá, maculis albis sparsis ornatá, fasciis pallidis transversis prope suturas, suturis maculis aurantiacis maculatis; spirá productá, acutá; anfractibus septem, transversim liratá; anfractu ultimo liris anticè distinctioribus; aperturá dilatatá; columellá plicis quatuor; labro acuto, anticè crenato.*

Hab. — ?

31. MITRA DELICATA, A. Adams. *M. testá ovato-fusiformi; spirá aperturá longiore; anfractibus planis; suturá subcanaliculatá, sordidè albá, fasciis transversis duabus pallidis; longitudinaliter plicatá, plicis angustis, acutis, crenulatis, interstitiis transversim clathratis, anfractu ultimo anticè angustato et recurvato; columellá plicis quatuor; labro margine acuto, crenulato.*

Hab. Cape York, 8 fathoms (Jukes).

A species of great delicacy, both of colour and sculpture.

32. MITRA RUFESCENS, A. Adams. *M. testá ovato-fusiformi; spirá acuminatá, sordidè albá, rufo variegatá, cingillis transversis, acutis, subdistantibus, liris duabus intermediis, interstitiis longitudinaliter valdè sulcatis, sulcis subdistantibus; columellá anticè tortuosá, plicis quatuor obliquis instructá; labro internè sulcato, margine crenato.*

Hab. China Seas.

This species, obtained during the voyage of H.M.S. Samarang, partakes of the same kind of sculpture as *M. annulata* and others, for which Swainson has formed a subgenus.

33. MITRA FORMOSA, A. Adams. *M. testá oblongo-fusiformi, albo rufoque eleganter variegatá; spirá acutá; anfractibus 8, rotundis, ad suturas subangulatis, cingillis transversis nodulosis ornatá, nodulis subquadratis, in seriebus regularibus; aperturá spirá brevior; columellá plicis quatuor; labro acuto, margine crenato.*

Hab. Marquesas (Rohr).

A very handsome species, entirely covered with close-set granules arranged in transverse rows.

34. MITRA SACERDOTALIS, A. Adams. *M. testá oblongo-fusiformi; spirá acuminatá; anfractibus novem, subplanulatis; fulvá, lineis fuscis transversis ornatá, prope suturas albidd, rufo maculosa; lævi, sulcis distantibus, transversis insculptá; anfractu ultimo basi recurvatá; aperturá spiræ dimidium æquante, recurvatá et anticè truncatá; columellá plicis quatuor, obliquis; labro albo, acuto, anticè rotundato.*

Hab. Australia.

A fine species of a peculiar character, both as regards form, colour and sculpture.

35. MITRA MACROSPIRA, A. Adams. *M. testá pyramidaliturrítá; spirá valdè productá, albidd, maculis rufis irregularibus ornatá; anfractibus planis, longitudinaliter costellatá, costellis lævibus subconfertis, interstitiis clathrato-punctatis; anfractu ultimo anticè*

angustato, basi subrecurso; columellâ plicis quinque; labro intus lirato, margine acuto, anticè producto subangulato.

Hab. —?

A whitish species with a produced acuminate spire, and the short aperture with the base narrowed; the outer lip dilated anteriorly.

36. MITRA BELLULA, A. Adams. *M. testâ oblongo-fusiformi, albâ, nitidâ, maculis rufis moniliformibus ad suturas ornatâ; transversim sulcatâ; anfractibus planis, supremis cancellatis; aperturâ angustâ, anticè productâ, contortâ, et recurvâ; columellâ plicis quatuor instructâ.*

Hab. Isle of Capul, on the reefs, low water.

A small, transversely grooved, polished species, with a necklace-like row of reddish spots near the sutures.

37. MITRA ECHINATA, A. Adams. *M. testâ fusiformi-turritâ; spirâ acuminatâ, albido-carneolâ, ad apicem rufescente, ad basin fasciâ latâ transversâ rufescenti ornatâ; anfractibus planis, longitudinaliter costatâ, costis prominentibus, prope suturas echinato-nodulosis, et infernè subnodosis, interstitiis sulcato-clathratis; labro intus lirato; columellâ plicis quatuor instructâ.*

Hab. —?

38. MITRA SCITULA, A. Adams. *M. testâ fusiformi-turritâ; spirâ acuminatâ, anfractibus planiusculis, carneolâ; punctis rufescentibus sparsim pictâ; longitudinaliter costatâ, costis undulatis, lævibus, subdistantibus; interstitiis valdè clathratis; aperturâ anticè angustatâ, basi subrecurvâ; columellâ plicis quatuor instructâ.*

Hab. China Seas.

A small, turreted, light-coloured species, with undulating ribs and clathrated interstices.

39. MITRA MARMOREA, A. Adams. *M. testâ fusiformi-turritâ; spirâ acuminatâ; anfractibus planiusculis; olivaceâ, rufo-fusâ marmoratâ, longitudinaliter costatâ, costis lævibus, crassis, supernè subnodosis; interstitiis transversim exaratis; columellâ plicis quinque; basi subcontortâ et recurvâ.*

Hab. Tambay, Isle of Negros, coarse sand, 10 fathoms.

Greenish, marbled with fuscous; ribs flat and broad; interstices with transverse engraved lines.

40. MITRA TURRICULA, A. Adams. *M. testâ fusiformi-turritâ, albâ, carneo sparsim pictâ, anfractibus supernè angulatis; longitudinaliter costatâ, costis crassis, lævibus, distantibus, supra nodosis, interstitiis sulcato-clathratis; aperturâ spiram æquante; columellâ plicis quatuor, supremis duabus duplicatis; basi vix recurvâ.*

Hab. —?

A small, elegant, turreted species, with smooth, thick ribs, and the interstices punctate-clathrate.

41. MITRA PALLIDA, A. Adams. *M. testâ turrito-fusiformi;*

spirâ productâ, acuminatâ; anfractibus convexiusculis; albidd, sparsim rufo-fusco pictâ, longitudinaliter costatâ, costis nodulosis, interstitiis clathrato-punctatis; aperturâ brevi, anticè angustatâ, basî productâ, tortuosâ et recurvâ; columellâ quadriplicatâ.

Hab. Marquesas.

A delicate, small, pale species, with scattered red-brown blotches, and with the interstices between the ribs clathrate-punctate.

42. *MITRA JUKESII*, A. Adams. *M. testâ ovato-fusiforimi; spirâ acutâ, aperturâ dimidium æquante; anfractibus planis, prope suturas angulatis; albidd, fasciis castaneis transversis ornatâ; transversim sulcatâ, sulcis, prope suturas, profundioribus; longitudinaliter plicatâ, plicis obtusis, distantibus, prope suturas nodulosis; columellâ plicis quatuor instructâ; labro intus lævi.*

Hab. North Australia (Jukes).

This species is intermediate between *M. corrugata* and *M. vulpacula*, but is distinct from both.

43. *MITRA CRENIPLICATA*, A. Adams. *M. testâ ovato-fusiforimi; spirâ acuminatâ; anfractibus planulatis; brunneâ, longitudinaliter plicatâ, plicis crenatis tenuibus; transversim liratâ, liris æqualibus, confertis, nodulosis ad plicas; aperturâ spiram æquante; labio posticè calloso, anticè dilatato; columellâ plicis quatuor instructâ; labro intus dentato-lirato, margine incrassato.*

Hab. — ?

This species belongs to the group named by Mr. Gray *Zierliana*.

44. *MITRA CRENILABRIS*, A. Adams. *M. testâ fusiformi; spirâ aperturam æquante; anfractibus planis; fulvâ, longitudinaliter substriatâ, transversim sulcatâ; aperturâ oblongâ, anticè dilatâ; columellâ plicis quatuor, anticè incurvatâ; labro, in medio, recto, margine crenato et incrassato.*

Hab. — ?

This *Mitra* resembles in many particulars *M. fulva*, Reeve, but in all the specimens I have seen the outer lip is thin and smooth in that species.

45. *MITRA CASTANEA*, A. Adams. *M. testâ ovato-fusiforimi; spirâ productâ; anfractibus rotundatis; castaneâ, nitidd, transversim punctato-striatâ; aperturâ quàm spira brevior, anticè dilatâ; columellâ plicis quinque.*

Hab. — ?

This species most closely resembles *M. badia*, Reeve, but the whorls are rounded, and it differs in other particulars.

46. *MITRA DICHROMA*, A. Adams. *M. testâ ovato-fusiforimi; spirâ acuminatâ; anfractibus planis; suturâ canaliculatâ, anticè castaneo-fusâ, posticè albidd; longitudinaliter substriatâ, transversim sulcatâ, sulcis anticè profundis, aperturâ anticè dilatâ; columellâ plicis quinque instructâ, anticè productâ; labro intus lirato, margine crenulato.*

Hab. — ?

47. MITRA DEALBATA, A. Adams. *M. testá ovato-fusiformi; spirá apice cancellato; anfractibus planulatis; suturá profundá, albá, transversim sulcatá, sulcis distantibus; aperturá oblongá, anticè dilatá; columellá posticè excavatá; plicis sex; labro anticè dilatato, intus lirato.*

Hab. — ?

This species somewhat resembles *M. crenilabris* in form, but it is much more slender, and the sculpture is different.

48. MITRA NODULIFERA, A. Adams. *M. testá turritá, fusiformi; spirá quàm apertura longiore; anfractibus, prope suturas, angulatis; albidd, longitudinaliter plicatá, plicis, ad suturas, nodulosis, prominentibus, distantibus; transversim lirátá, interstitiis longitudinaliter striatis; aperturá intus fulvá, posticè angulatá; columellá plicis quatuor; labro margine flexuoso.*

Hab. — ?

A small species, somewhat resembling *M. cymelium*, Reeve, but without the transverse black lines.

49. MITRA MARIE, A. Adams. *M. testá ovato-conicá; spirá acuminatá; anfractibus planis, cingulis tribus, transversis, acutis, elevatis, interstitiis longitudinaliter profundè sulcatis, instructis; posticè albá, anticè hepaticá, reticulationibus albis punctisque rufo-fuscis, ornátá; anfractu ultimo, sulcis transversis, interstitiis simplicibus; columellá plicis quinque instructá; labro intus sulcato, margine crenulato.*

Hab. Eastern Seas.

Somewhat like *M. incisa*, but of very different form and colour.

50. MITRA PUSILLA, A. Adams. *M. testá ovato-fusiformi; spirá turritá, elongatá; anfractibus subrotundatis; albidd, fasciá latá transversá, carneolá, anticè ornátá; longitudinaliter costatá, costis regularibus, æqualibus, subconfertis, interstitiis transversim valde sulcatis; aperturá brevi; columellá plicis quatuor.*

Hab. — ?

A small species, with a single, transverse, faint pink band at the fore part of the last whorl.

51. MITRA COLUMBELLINA, A. Adams. *M. testá ovato-fusiformi; spirá brevi, acutá; anfractibus subrotundatis, albo castaneoque concinnè pictá, transversim evanidè sulcatá; aperturá ovato-oblongá, anticè dilatá; columellá plicis quatuor; labro intus lævi.*

Hab. — ?

This species is very prettily painted with white and dark chestnut-brown, and in form somewhat resembles a *Columbella*.

52. MITRA PHILIPPINARUM, A. Adams. *M. testá ovato-fusiformi; spirá brevi, acuminatá; anfractibus planulatis, cineré, flammulis rufo-fuscis, longitudinalibus, variegatá; transversim sulcatá, sulcis regularibus, subdistantibus, profundis; aperturá lineari-oblongá, intus fuscá; columellá plicis sex; labro margine albo, crenato.*

Hab. Philippines.

This species is figured in Mr. Reeve's Monograph as *M. flammea* of Quoy, the original type of which, however, Mr. Cuming possesses, and it is entirely different.

May 27, 1851.—W. Yarrell, Esq., V.P.L.S., in the Chair.

The following communications were received and read :—

1. NOTICE OF THE BIRDS OF MADEIRA, IN A LETTER
ADDRESSED TO THE SECRETARY.
BY EDWARD VERNON HARCOURT, ESQ.

SIR,—According to your request, I send you a short account of the birds that breed in Madeira, together with a list of those that visit the island.

The birds of Madeira are less numerous than might be expected in so genial a climate, and most of them are merely varieties, where they differ from European species.

The birds that breed in Madeira are these :—

<i>Latin Name.</i>	<i>English Name.</i>	<i>Portuguese Name.</i>
1. <i>Falco Tinnunculus</i> , Linn.	Kestrel.	Francelho.
2. — <i>Buteo</i> , Linn.	Buzzard.	Manta.
3. <i>Strix flammea</i> , Linn.	Barn Owl.	Coruja.
4. <i>Turdus Merula</i> , Linn.	Blackbird.	Mérlo-preto.
5. <i>Sylvia Rubecula</i> , Lath.	Redbreast.	Papinho.
6. — <i>atricapilla</i> , Lath.	Black-cap Warbler.	Tinto-Negro.
(<i>Curruca Heinekeni</i> , Jard.)	Variety of the former.	Tinto-Negro de Capello.
7. <i>Curruca conspicillata</i> , Gould.	Spectacle Warbler.	None.
8. <i>Regulus</i> — ?	— ?	Abibe.
9. <i>Motacilla boarula</i> , Linn.	Grey Wagtail.	Lavandeira amarella.
10. <i>Anthus pratensis</i> , Bechst.	Meadow Pipit.	Corre de Caminho.
11. <i>Fringilla butyracea</i> , Linn.	Green or Wild Canary.	Canario.
12. — <i>Carduelis</i> , Linn.	Goldfinch.	Pinta Silva.
13. — <i>Petronia</i> , Linn.	Ring Sparrow.	Pardao.
14. — <i>Tintillon</i> , Webb & Berthelot.	Buff-breasted Chaffinch.	Tentilhao.
15. — <i>cannabina</i> , Linn.	Greater Redpole or Linnet.	Tinto roxo.
16. <i>Cypselus unicolor</i> , Jard.	Lesser Swift.	Andorinha da Serra.
17. — <i>murarius</i> , Temm.	Common Swift.	— do Mar.
18. <i>Columba Trocaz</i> , Hein.	Long-toed Wood-Pigeon.	Trocaz.
19. — <i>Palumbus</i> , Linn.	Ring-dove.	Pombo.
20. — <i>Livia</i> , Briss.	Rock-pigeon.	Pombinho.
21. <i>Perdix rubra</i> , Briss.	Red-legged Partridge.	Perdix.
22. — <i>Coturnix</i> , Lath.	Quail.	Cordonez.
23. <i>Scolopax Rusticola</i> , Linn.	Woodcock.	Gallinhola.
24. <i>Sterna Hirundo</i> , Linn.	Tern.	Garajao.
25. <i>Larus argentatus</i> , Brunn.	Herring Gull.	Gaio, Guivata (after 3rd aut. moult).

	Latin Name.	English Name.	Portuguese Name.
26.	<i>Procellaria Puffinus</i> , Linn.	Cinereous Shearwater.	Cagarra.
27.	— <i>Anglorum</i> , Temm.	Manks Shearwater.	Boeiro.
28.	— <i>obscura</i> , Gmel.	Dusky Petrel.	Pintainho.
29.	{ — <i>anginho</i> , Hein.	Angel Petrel.	Anginho.
	{ — <i>Bulwerii</i> , Jard.	Bulwer's Petrel. }	
30.	— ?	— ?	Roque de Castro.

The Kestrels are very numerous and very tame, perching on the roofs of houses, from whence they dart frequently at canary-birds hanging in their reed cages outside the windows, and they generally succeed in securing their prey ; they live principally on lizards, grasshoppers, and mice.

The Buzzard is seldom seen about the town, but confines his flights to the highest mountains, feeding on small birds, insects, and reptiles.

The Barn Owl inhabits the ravines in small numbers ; it is a little darker than the British Owl. It may be remarked that all the birds of Madeira are darker than their European brethren.

The Redbreast is very common ; it is frequently caged, and seems to flourish in captivity.

The Blackbird, which in some parts is very plentiful, does not differ from the English bird.

The Black-cap Warbler, which is here the most domestic songster, has been sometimes called the Madeira Nightingale ; there is a fullness in its warble which in a degree justifies such praise. A Madeiran variety of this bird has been described by Sir William Jardine* as a new species, under the name of *Curruca Heinekeni* ; Dr. Heineken, however, in his paper on the subject in the 'Zoological Journal,' No. xvii. Art. xvii., disproves the supposition of its being a distinct species, and I am able to confirm the view that Dr. Heineken takes of it. The popular belief amongst the natives is, that where the nest of a "Tinto Negro" contains five eggs, the fifth always turns out a "Tinto Negro de Capello." The variety is much prized ; for where you could buy a common "Tinto Negro" for sixpence or a shilling, you would be asked eight or ten shillings for a "Tinto Negro de Capello." The size of the two birds is precisely the same in all particulars ; the chief difference consists in the black cap in the variety being extended to the shoulders, and I have sometimes seen the black extended over all the under parts : the under parts are generally much the same as those of the common female Black-cap, and the upper parts as those of the common male.

The Wren is one of the prettiest feathered inhabitants of Madeira ; it lives amongst the laurel forests, in the less frequented parts of the island. It seems intermediate between the Gold and Fire-crested Wrens of Britain, and is a little larger and brighter than either.

The Spectacle Warbler is very locally distributed ; it is found in brakes and bushes in some of the unfrequented parts.

The Grey Wagtail is very common, frequenting the cisterns attached to houses, as well as the streams ; where, from its familiar habits

* Edinb. Journ. of Nat. and Geog. Science, Jan. 1830, vol. i. p. 243.

amongst the washerwomen, it has been admitted in Madeiran phraseology into the ranks of the sisterhood, under the title of "Lavandeira."

The Meadow Pipit is plentifully found on the cliffs and fields near the sea, and on the serras.

The Green Canary is the original stock of the bird so well known to us as the Yellow Canary; it flies about in large flocks, with linnets and other birds, and is easily distinguished by its song, which is the same as that of the captive variety. The price of a good singing canary, either in Madeira or the Canary islands, varies from five to nine shillings, so that in fact it may be bought much cheaper in London. This bird has been admirably described by Dr. Heineken, in the 'Zoological Journal,' No. xvii. Art. xvii.

The Goldfinch is very common, and differs in no respect from our own.

The Ring Sparrow here takes the place, in a way, of our House Sparrow: it is universal; on the bleak serras, near houses, on the rocks by the sea; there is no place that it does not frequent. It differs thus in habits, though in nothing else, from the Ring Sparrow of Europe.

The Chaffinch of Madeira is nearly identical with the bird figured, under the name of "*Fringilla Tintillon*," in Webb and Berthelot's work on the Canary islands.

The Greater Redpole is very abundantly met with; it differs from the English Linnet in retaining its carmine colouring through the year.

The Lesser Swift is mentioned in Brewster's 'Journal,' by Dr. Heineken, under the title of "Black-chinned Swift." This property is however by no means general amongst the species: I have several in my possession with the chin fully as white as that of the common Swift. One of the chief differences is in size, the '*unicolor*' being much the smallest. The tail is forked about an inch and a half, and the plumage is rather darker than that of the common Swift.

The common Swift is not quite so plentiful as the Lesser Swift. Both species remain in the island throughout the year; their nests are built in the cliffs; their habits vary from those of Swifts in England; here they seem to take the place of the Swallow, hunting and skimming along the ground in a manner that would appear very degrading to their northern brethren.

The Ring-dove appears to be rather larger than the English bird; in other respects it is similar. It lives in the forests on the north side of the island.

The Long-toed Wood Pigeon has been described by Dr. Heineken, in 'Brewster's Journal,' under the name of "*Columba Trocaz*;" it is about an inch longer than the Madeiran Ring-dove; one of its chief peculiarities, and which seems to have escaped observation, is the great length of its centre toe, being more than an inch longer than that of the Ring-dove; it has a silvery ring all round its neck; it is darker in its general plumage than the Ring-dove, and is excellent eating. It inhabits the forests on the north side of the island, feeding upon grasses and the acorns of the laurel-trees.

The Rock Pigeon inhabits the sea cliffs, and rocks in the ravines

all over the island. There is a variety here which is darker in its plumage and in the colour of its feet than the common Rock Pigeon.

The Red-legged Partridge is shot on the serras.

The Quail is more plentiful than the Partridge, and approaches nearer to the habitations of man ; it pairs, laying about sixteen eggs, and has three or four broods in the season.

The Woodcock is found chiefly in the west, and on the Paul da Serra, sometimes plentifully. It is a large bird, but I think of inferior flavour ; it breeds in the island, and is met with throughout the year.

The Tern appears chiefly at the Dezerta islands and at Point São Lourenço.

The Herring Gull is common everywhere ; Dr. Renton says it is quicker by some months in obtaining its mature plumage than with us.

The Cinereous Shearwater breeds plentifully on the Dezerta islands ; its cry, whether on the wing or on shore, is very remarkable ; the natives salt it and consider it eatable.

The Manks Shearwater is also very plentiful at the Dezertas ; it is easily distinguished from the Dusky Petrel, which is another inhabitant of the Dezertas, by its superior size, and by the colour of its feet. In the Dusky Petrel the feet are bluish ash-colour, and in the Manks Shearwater flesh-colour ; in the Dusky Petrel all the secretions are green, and in the Manks Shearwater yellow. The Dusky Petrel is a very tame bird, and will live upon almost anything ; it runs along the ground on its belly, and uses its curious-shaped bill in climbing up the rocks.

The Angel Petrel of Heineken has the tail slightly forked, and differs from the other smaller Petrels in having no white about the rump or flanks ; it is entirely uniform black ; it is very common on the Dezerta islands ; when approached it emits a highly offensive matter.

The Bulwer's Petrel, as described by Sir Wm. Jardine *, I never saw at Madeira, nor have I ever met with any one that has seen it there. Sir Wm. Jardine says, "it is easily distinguished from any other, by having the two centre tail-feathers elongated, as in the genus *Lestris*, and not even or forked, like the other Petrels." It is probably identical with the Angel Petrel.

There is another Petrel, called by the natives "Roque de Castro," pronounced "Roque de Crasto," which differs from any I have ever seen described ; it approaches perhaps nearer to Leach's Petrel than any other, though the shape of the bill alone is sufficient to separate it from that species. It is common on the Dezerta islands, where it breeds, though it is by no means so abundant as the Angel Petrel.

* Sir W. Jardine on the Birds of Madeira, 'Edinb. Journ. of Nat. and Geog. Science,' Jan. 1830, p. 245, and 'Illustrations of Ornithology,' by Jardine and Selby.

The following is a list of the stragglers found in Madeira :—

<i>Latin Name.</i>	<i>English Name.</i>	<i>Authority †.</i>
31. <i>Cathartes percnopterus</i> , <i>Temm.</i>	Egyptian Vulture.	* * *
32. <i>Falco nisus</i> , <i>Linn.</i>	Sparrow Hawk.	* * *
33. <i>Corvus corax</i> , <i>Linn.</i>	Raven.	* * *
34. — <i>corone</i> , <i>Linn.</i>	Carrión Crow.	Mr. Lowe.
35. <i>Oriolus galbula</i> , <i>Linn.</i>	Golden Oriole.	* * *
36. <i>Sturnus vulgaris</i> , <i>Linn.</i>	Common Starling.	* * *
37. <i>Turdus iliacus</i> , <i>Linn.</i>	Redwing.	Mr. Lowe.
38. — <i>musicus</i> , <i>Linn.</i>	Common Thrush.	Mr. Penfold.
39. <i>Sylvia hortensis</i> , <i>Lath.</i>	Greater Petty-chaps.	Mr. Penfold.
40. <i>Troglodytes europæus</i> , <i>Selb.</i>	Common Wren.	Mr. Lowe.
41. <i>Motacilla alba</i> , <i>Linn.</i>	Pied Wagtail.	* * *
42. <i>Alauda arvensis</i> , <i>Linn.</i>	Skylark.	Mr. Lowe.
43. <i>Fringilla chloris</i> , <i>Linn.</i>	Green Grosbeak.	* * *
44. — <i>domestica</i> , <i>Linn.</i>	Common Sparrow.	Mr. Penfold.
45. <i>Cuculus canorus</i> , <i>Linn.</i>	Cuckoo.	* * *
46. <i>Musophaga africana</i> , <i>Temm.</i>	African Bee-eater.	Mr. Lowe.
47. <i>Upupa epops</i> , <i>Linn.</i>	Hoopoe.	* * *
48. <i>Merops apiaster</i> , <i>Linn.</i>	Bee-eater.	Mr. Lowe.
49. <i>Alcedo ispida</i> , <i>Linn.</i>	King-fisher.	Mr. Lowe.
50. <i>Hirundo urbica</i> , <i>Linn.</i>	House Martin.	* * *
51. — <i>rustica</i> , <i>Linn.</i>	Chimney Swallow.	* * *
52. — <i>riparia</i> , <i>Linn.</i>	Bank Martin.	Doubtful.
53. <i>Caprimulgus europæus</i> , <i>Linn.</i>	European Goatsucker.	Mr. Hinton.
54. <i>Columba cænas</i> , <i>Linn.</i>	Stock-dove.	Mr. Lowe.
55. — <i>Turtur</i> , <i>Linn.</i>	Turtle-dove.	* * *
56. <i>Œdienemus crepitans</i> , <i>Temm.</i>	Thick-knee.	Mr. Lowe.
57. <i>Calidris arenaria</i> , <i>Ill.</i>	Sanderling.	Mr. Lowe.
58. <i>Vanellus cristatus</i> , <i>Meyer.</i>	Crested Lapwing.	* * *
59. <i>Charadrius hiaticula</i> , <i>Linn.</i>	Ringed Plover.	Mr. Lowe.
60. — <i>pluvialis</i> .	Golden Plover.	Mr. Hewitt.
61. <i>Streptilas interpres</i> , <i>Leach.</i>	Turnstone.	Mr. Lowe.
62. <i>Ciconia nigra</i> , <i>Temm.</i>	Black Stork.	Mr. Lowe.
63. ? <i>Ardea cinerea</i> .	Common Heron.	* * *
64. <i>Ardea russata</i> , <i>Wagler.</i>	Buff-backed Heron.	* * *
65. — <i>purpurea</i> , <i>Linn.</i>	Purple Heron.	* * *
66. — <i>minuta</i> , <i>Linn.</i>	Little Bittern.	* * *
67. — <i>stellaris</i> , <i>Linn.</i>	Common Bittern.	Mr. Lowe.
68. — <i>nycticorax</i> , <i>Linn.</i>	Night Heron.	* * *
69. <i>Limosa melanura</i> , <i>Leisler.</i>	Black-tailed Godwit.	* * *
70. <i>Numenius arquata</i> , <i>Lath.</i>	Common Curlew.	Mr. Hinton.
71. — <i>phæopus</i> , <i>Temm.</i>	Whimbrel.	Mr. Lowe.
72. <i>Tringa pugnax</i> , <i>Linn.</i>	Ruff.	* * *
73. — <i>subarquata</i> , <i>Temm.</i>	Pigmy Curlew.	Mr. Lowe.
74. — <i>variabilis</i> , <i>Meyer.</i>	Dunlin.	* * *
75. — <i>cinerea</i> , <i>Temm.</i>	Knot.	Mr. Lowe.
76. <i>Totanus hypoleucos</i> .	Sandpiper.	* * *
77. — <i>glottis</i> , <i>Bechst.</i>	Greenshank.	* * *
78. <i>Scolopax gallinago</i> , <i>Linn.</i>	Common Snipe.	Mr. Hinton.
79. — <i>major</i> , <i>Temm.</i>	Great Snipe.	* * *
80. <i>Crex Baillonii</i> , <i>Temm.</i>	Baillon's Crake.	* * *
81. <i>Gallinula chloropus</i> , <i>Lath.</i>	Gallinule.	* * *

† Where there are stars it is on my own authority.

Latin Name.	English Name.	Authority†.
82. <i>Ortygometra crex</i> , Temm.	Land-rail.	Mr. Lowe.
83. <i>Fulica atra</i> , Linn.	Coot.	* * *
84. <i>Anser segetum</i> , Steph.	Bean Goose.	* * *
85. <i>Mareca penelope</i> , Selb.	Wigeon.	Mr. Penfold.
86. <i>Anas crecca</i> , Linn.	Teal.	* * *
87. — <i>boschas</i> , Linn.	Mallard.	Mr. Penfold.
88. <i>Sterna nigra</i> , Linn.	Black Tern.	Mr. Lowe.
89. — <i>Dougallii</i> , Mont.	Roseate Tern.	Sir W. Jardine.
90. <i>Larus tridactylus</i> , Lath.	Kittiwake.	* * *
91. <i>Lestris cataractes</i> , Temm.	Skua.	* * *
92. <i>Colymbus glacialis</i> , Linn.	Northern Diver.	* * *
93. <i>Sula alba</i> , Temm.	Gannet.	Mr. Lowe.
94. <i>Procellaria Leachii</i> , Temm.	Leach's Petrel.	Sir W. Jardine.
95. — <i>pelagica</i> , Linn.	Stormy Petrel.	Doubtful.

I have the honour to remain, Sir,

Yours, &c.,

EDWARD VERNON HARCOURT.

BOTANICAL SOCIETY OF EDINBURGH.

May 12, 1853.—Professor Balfour, President, in the Chair.

The following papers were read :—

1. "On the Soap Beans of China," by Dr. Macgowan of Ningpo. This paper contained a popular description, chiefly derived from Chinese authorities, of two species of *Casalpinia*, which furnish the Soap Bean and the Plump Soap Bean of the Chinese. The Beans have marked saponaceous qualities, and are used as detergents, for cleaning silver vessels, &c.

2. "On the Flora of the Island of Arran," by Dr. Balfour. The author noticed the plants which occur in different districts, in connexion with the rocks. He mentioned that he had observed between 500 and 600 Phanerogamous plants, and 27 Ferns and Equiseta.

3. "On the Colorific properties of the Lichens. Part III. The Manufacture of the Lichen-dyes," by W. Lauder Lindsay, M.D. The author detailed the various processes of manufacture as carried on in different countries, on the large scale (by the manufacturer) and small scale (by the peasant), with the principles on which these are severally founded.

June 9.—Professor Balfour, President, in the Chair.

Dr. Balfour stated that some of the Palms in the Botanic Garden had sent their fronds through the roof of the Palm-House, and that unless measures were taken immediately for making an addition to the house, he would be under the necessity of destroying some of the finest Palms in Britain.

The following are the measurements of some of them. In giving

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